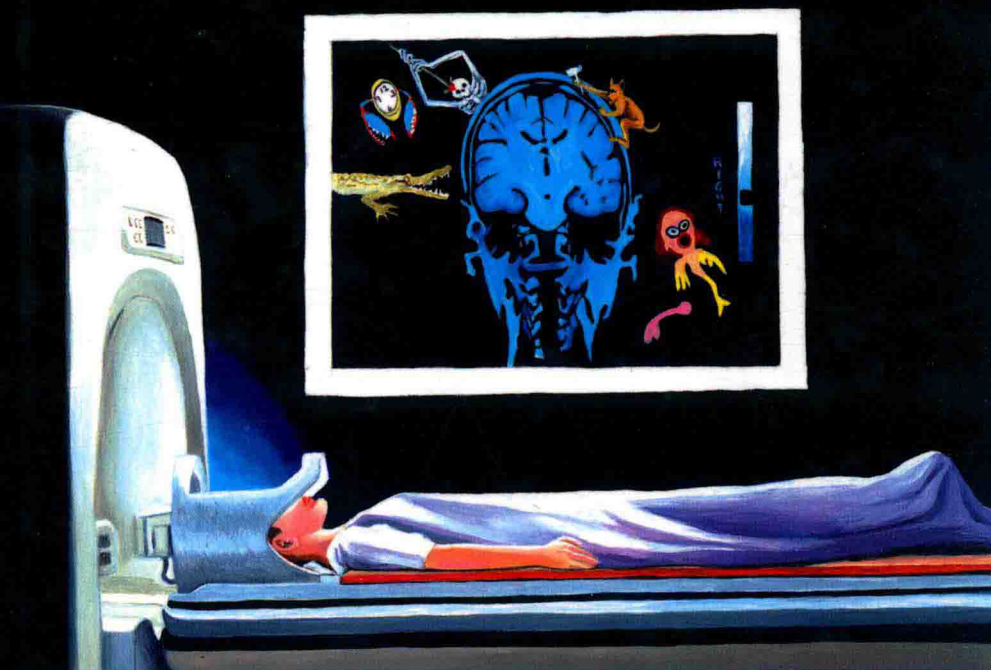


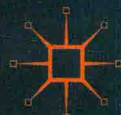
neurofeminism

issues at the intersection of feminist
theory and cognitive science



edited by robyn bluhm,
anne jaap jacobson
and heidi lene maibom

New Directions in Philosophy and Cognitive Science



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Edited by

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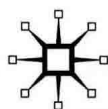
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FEMINIST INTERPRETATIONS OF DAVID HUME

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Introduction

Robyn Bluhm, Anne Jaap Jacobson, and Heidi Lene Maibom

Neurofeminism is the first collection of essays to bring a critical feminist perspective to the recent brain sciences. The authors come from several different academic disciplines, and the essays often include insights and material from more than one area of study. The work can be seen as addressing issues in four large areas within neurofeminism: sex and gender differences, ethics, philosophy of science, and embodiment. Many of the essays address topics from two or even three of these areas. Accordingly, the editors have decided not to divide this book into sections; rather, this introduction will delineate themes from each of the areas as they appear in the chapters.

1 Sex and gender

1.1 Terminological questions

Most people who are familiar with feminist scholarship recognize a distinction between sex and gender. This distinction can be traced back to the works of two psychologists, John Money (Money 1955) and Robert Stoller (Stoller 1968) (see Fausto-Sterling 2000a; Mikkola 2008). Stoller was interested in the question of gender identity, and separated sex and gender so as to be able to discuss the experiences of individuals whose biological appearance (sex) was at odds with their experiences of being female or male (gender). Money, being a sexologist, focused on the development of gender identity in individuals born with ambiguous genitalia and raised as either female or male. From these two bodies of work arose the use of 'sex' as referring to biological characteristics, particularly those that are relevant to reproduction, whereas 'gender' came to refer to psychological or behavioral characteristics. Gender identity was thought to be the result of socialization as female or as male.

Second-wave feminists began using the distinction in the late 1960s and early 1970s to emphasize that psychological and behavioral characteristics associated with masculinity and femininity were the products of differences in socialization and experiences. These are *gender* characteristics, unlike the physical characteristics associated with being male or female. This emphasis on socialization was meant to combat earlier notions of biological determinism, which argued that stereotypical male and female characteristics were as much the results of biology as physical differences. By attributing gender differences to culture or environment, feminists wanted to emphasize that “it was social institutions, themselves designed to perpetuate gender inequality, that produced most of the differences between women and women” (Fausto-Sterling 2000a: 638). Moreover, they argued that changes designed to eliminate gender inequality in these social institutions would also eliminate gender differences. If that were true, the social origin of most differences between men and women would be well established.

Despite the clarity of this argument and the rationale for distinguishing between gender and sex, the *use* of the terms has not been consistent. In addition to the usage described above, the terms have been used in at least two other ways.¹ First, they are often used interchangeably, as synonyms. Although Money has been credited with being the first to use the term ‘gender’ outside of its linguistic context, the use of ‘gender’ as a synonym for ‘sex’ has a long history. David Haig (2004) notes that the *Oxford English Dictionary* contains examples of this usage from as long ago as the fifteenth century. He also notes that, in the early 1970s, feminist works sometimes used the terms synonymously (e.g. Holter 1970) or even reversed the association, so that ‘gender’ was used to refer to innate characteristics, while sex roles were learned (Chafetz 1974; discussed in Haig 2004: 93). Biologists still talk of sex differences or gender differences without meaning to imply anything about the cause of these differences. As a result, Haig points out, papers examining differences in animals sometimes refer to gender differences.

Second, ‘gender’ is sometimes used as an alternative for ‘women.’ In an influential discussion the use of gender in historical analysis, Joan W. Scott notes that “[i]n its simplest usage, ‘gender’ is a synonym for ‘women.’ Any number of books and articles whose subject is women’s history have, in the past few years, substituted ‘gender’ for ‘women’ in their titles” (1986: 1056). Scott notes that this practice achieves at least two ends. One is to underscore the distinction between sex and gender described above. The other is to indicate “the scholarly seriousness of a work, for ‘gender’ has a more neutral and objective sound than does

'women'" (1986: 1056). The use of the term 'gender,' Scott suggests, avoids the political connotations of 'women's history,' which was seen as being associated with "the (supposedly strident) politics of feminism" (1986: 1056). Similarly, Haig suggests that contemporary authors may use 'gender' as a euphemism for 'sex,' either to avoid the connotation of copulation or simply to use a more academic-sounding term.

In summary, even if sexologists and feminist writers consider the distinction between sex and gender to be clear, the actual use of the terms varies enough to obscure the distinction. It is particularly important in interdisciplinary work to take note of this variability, since the conventions of one discipline may not be those of another. There is yet another important problem with the use of the terms 'sex' and 'gender': the distinction itself is open to question, particularly in the case of biological, including neuroscientific, research.

2 Sex and gender, biology, and brains

The distinction between sex and gender, as noted above, was intended to be part of an argument against the idea that physical or behavioral differences between men and women are biologically determined, and therefore 'natural' and unchangeable. Certainly some differences, such as physical differences associated with reproduction, do not seem to be amenable to change. Differences in social roles and intellectual achievements, however, were held to be the result of differences in the socialization of girls and boys. The sex/gender distinction thus became associated with the distinctions between biology and culture, or between nature and nurture.

However, associating biology with sex differences is problematic. Biological characteristics are thought to be innate and unchangeable. If this is true, then biological differences between men and women must also be innate and immutable. So if behavioral differences can be associated with biological differences, they, too, become natural and immutable. Ruth Doell and Helen Longino (1988) characterize this type of reasoning as rooted in the "linear model" of development. Genetic differences in the XX versus XY chromosomal makeup lead to gonadal differences in a developing fetus. Gonadal differences determine the production of different levels of sex hormones, which affect the development of the brain. This is ultimately the source of the easily observable differences in the behaviors of girls and boys and the women and men they become. More recently, Rebecca Jordan-Young (2010) has shown that the linear model, which she calls "brain organization theory," still

dominates much of developmental neurobiology. Given the influence of this line of explanation and the equation of sex differences with biological differences, it is clear why people are tempted to conclude that the kinds of psychological and behavioral differences claimed by feminists to be gender differences, and thus due to social factors, are actually sex differences, and the result of the unfolding of inevitable biological processes.

Yet a number of feminist scientists have argued that because the body, and especially the brain, is changed by experiences, 'biological' should not be taken to mean 'natural,' or 'innate,' or the product of sex rather than gender (e.g. Bleier 1984; Fausto-Sterling 1992, 2000a; Hubbard 1992). It is impossible, they argue, to disentangle the effects of sex from those of gender on differences in the brain. Thus, the very utility of the distinction between sex and gender has been called into question.²

Because of the difficulty of distinguishing between sex and gender in discussions of the brain (see below), we have not enforced a consistent use of the terms in this volume. Instead, the authors should make clear any potentially confusing or contradictory uses in their contributions.

3 Ethics

Sex and gender differences are also relevant in feminist approaches to ethics. Unwittingly perhaps, traditional ethics embodies a man's perspective on what morality is about (power relations, negotiation, etc.), what its central concepts are (harms, rights, and justice), its structure (rules and regulations), the nature of moral agency (rational reflection), and so on (Jaggar 1983). Men's moral experience traditionally takes place in a society in which they dominate public life and where women are largely subjugated to them. The prototypical picture of the moral sphere is of a public forum where men negotiate a reasonable coexistence among themselves as independent and more-or-less equal agents. Social contract theory is a case in point (Hobbes, Locke, Rousseau). Kant's moral realm of rational agents respecting each other *qua* purely rational agents is, perhaps, a rather extreme version of such a vision. Evolutionary accounts of human social organization and morality insist that humans are naturally egalitarian, without considering that more than half of the human population has historically enjoyed little, or no, equality (e.g. Boehm 1993; Wilson 2002).

Game theoretic models of human cooperation and altruism likewise present a typical male perspective. This is particularly clear in the prisoner's dilemma, which is often used to model human cooperation and

altruism (Axelrod 1984; Frank 1988). In the classic formulation, two suspects have been arrested by the police, who have insufficient evidence to convict either of them for the crime in question. Apart from cooperating in their criminal activities, the subjects are relatively independent; they have no familial, friendship, or emotional ties to one another (which would complicate matters). To encourage a confession, the police offer each of them, separately, the following deal. If one testifies against the other and the other remains silent, that prisoner goes free and the silent one gets 10 years. If both refuse to testify, they get only 6 months in jail each (for another, minor, charge). If both agree to testify, they get 5 years each. They must decide in ignorance of the other's decision. The rational course of action for either agent is to defect, i.e. to agree to testify against the other. If this dilemma is used as a model of human cooperation, an apparently unsolvable problem arises about how human cooperation came about. Only iterated forms of the dilemma allow a rational solution in terms of cooperation, but this presupposes that people interact with largely the same individuals (cf. Trivers 1971). Whether such conditions can be assumed to have held back in the Pleistocene is unclear. There are also issues concerning migration between groups, which makes it hard to avoid infiltration of cooperative individuals by non-cooperative ones, unsettling the delicate balance required for cooperation and altruism (Sterelny 2003; Richerson and Boyd 2005).³

Recently people have begun to question whether game theoretic models are evolutionarily realistic. Thinking of cooperating individuals as having no affective ties may simplify matters from an abstract, scientific point of view, but may seriously misrepresent the state of human relations in the period we are interested in modeling. Consider first of all that our *raison d'être* is to produce viable offspring. With young that require as many as 18 years of parental care, humans find themselves with a challenge not faced by most other animals. A mother cannot reasonably hope to raise an infant on her own, for instance. Consequently, the model of the origin of human cooperation and altruism where the independent and unattached individual pairs off against the other is not very useful (Hrdy 2009). Furthermore, parental nurturance is found in our closest ancestors, indicating that something other than rational self-interest was available for evolution to work with. Charles Darwin, himself, suggested that parental nurturance might be the root of many of our moral characteristics (Darwin 1871). It is not hard to see that if we start with parental nurturance – which likely involves altruistic motivation (Sober and Wilson 1998) – current game

theoretical models are a poor fit. Perhaps they can account for the rise of large-scale societies out of small-scale ones, but they do not provide good models for the origin of human cooperation or altruism. One suspects that this ignoring of the relevance of the parental connection to the field of ethics – be it evolutionary ethics, moral theory, or meta-ethics – is the fruit of a culture that historically has dominated and undervalued women and their work. Women have been delegated the work of the household and childrearing which, in their turn, have been regarded as being of little relevance to public life or serious intellectual occupations, like philosophy.

By contrast to the male perspective outlined above, many feminists have argued that morality extends into the personal sphere traditionally understood to be that of the female. Furthermore, they argue, this sphere may be more basic and constitute a better model for societal morality than the traditional male-dominated one (Gilligan 1982; Noddings 1984; Robinson 1999). For instance, Carol Gilligan's (1982) care ethics was originally a response to Lawrence Kohlberg's moral stage theory which, being deeply inspired by Kantian moral thinking, is plausibly construed as a predominantly male-oriented approach to morality (Kohlberg 1976). It is interesting to note that the care approach has close affinities with Buddhist ethics, which is one of the oldest in the world, but has not been much considered in Western ethical thought until relatively recently.

4 Philosophy of science

Feminist neuroscientists were among the first to critique androcentric theories and assumptions in their disciplines, making neuroscience an important site for what Harding (1986) called "spontaneous feminist empiricism." Since that time, feminist epistemology and philosophy of science has become an established area of research, and has provided a theoretical basis for these criticisms. Elizabeth Anderson (2011) suggests that the central concept of feminist epistemology and philosophy of science is that knowers are situated (and, therefore, so is their knowledge). What can be known by an individual or a group depends on a number of factors relevant to the knower's situation, including aspects of their social location, their background beliefs and world views, their values and interests, and their relationships to other inquirers and areas of inquiry. These factors are, of course, not independent of each other.

Gender is a particular type of social situation that can have important effects on the type of scientific theories that are developed. Working